STUDYING STEPPED POOLS AND JEWISH WATER RITUALS IN GALILEE, NORTHERN ISRAEL

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Our story begins at Masada (Fig. 1), in the Judean desert, near the southeastern fringes of the Roman Empire. On this isolated rock plateau, being besieged by the Roman army, a group of Jewish rebels hid after the First Jewish Revolt (AD 66–70/74) in the remains of Herod the Great's former palace-fortress. It was here, during its 1964 excavations, that the first archaeological remains of a Jewish ritual bath from antiquity were identified.

In a room in Masada's southern area, a system of three interconnected pools was found that was fed by rainwater, two with steps leading down to the bottom. To see these pools, Rabbi Muntzberg, a specialist on modern rabbinic *miqva'ot*, visited the excavations and, after a careful inspection, ultimately identified them as *miqva'ot*, i.e. Jewish ritual purification baths. Their builders must have been "devout Jews" who, according to the exca-

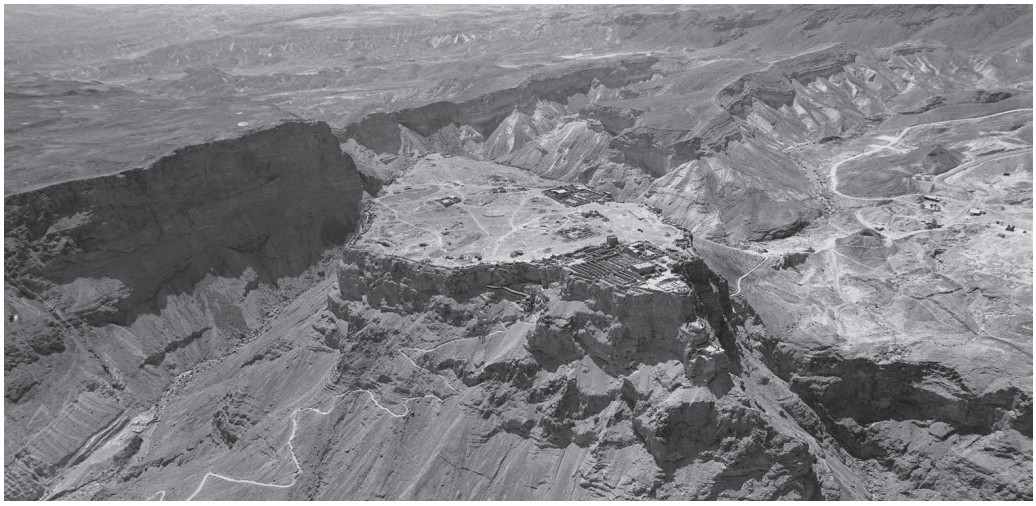

Figure 1. Aerial view of Masada (Photo: Moshe Milner, used under CC BY-NC-SA 2.0, https://www.flickr.com/photos/government_press_office/7307407062/).

Figure 2. Map of Roman Palestine. Dotted borders mark the region of Galilee. (All remaining images by the author.)

vator, scrupulously conformed to "the injunctions of traditional Jewish law" (Yadin 1966, 164–167).

"That moment", as recently recalled, "very much defined how ritual baths would be studied for the next half a century" (Miller 2015, 17). In this article, I aim to review this archaeological scholarship and to provide inroads for potential advances in the field. This will be done through examples from the region of Galilee, northern Israel (Fig. 2).

The Stepped Pools of Galilee

The region of Galilee has, despite its small size, had a major impact on our Western cultural history and heritage as the birthplace of both Christianity and Rabbinic Judaism. Under its Hasmonean rule (ca. 100–63 BC) and subsequent reigns of Herod the Great and his descendants (ca. 63 BC–AD 100), archaeological evidence suggests that the overwhelming majority of Galilee's inhabitants were Jews, who either had lived here already or arrived from Hasmonean Judea in the south (for overview, see Fiensy and Strange 2014; 2015). One particular type of material evidence regularly attested in Galilean excavations and associated with this population are the so-called 'stepped pools'. So far around 80 of them have been identified, most notably in the central Lower Galilean town of Sepphoris (Fig. 3) (Bonnie 2014, 557–588).[1] These pools were introduced to Galilee by the Hasmoneans in the early first century BC and, though a few may have been used longer, continued to be built and in use roughly up to the late first and early second century AD.[2] The majority of them are found in houses (Fig. 4), though some were

[1] In the southern Levant in general, primarily in modern Israel, several hundreds of such stepped pools have been found. See Adler 2011, 321–343; Reich 2013.

[2] Some argue that a number of pools functioned considerably longer, into the fourth century AD (e.g. Miller 2015, 185–197). This is for sporadic cases indeed possible, but the present state of the evidence on this matter remains inconclusive.

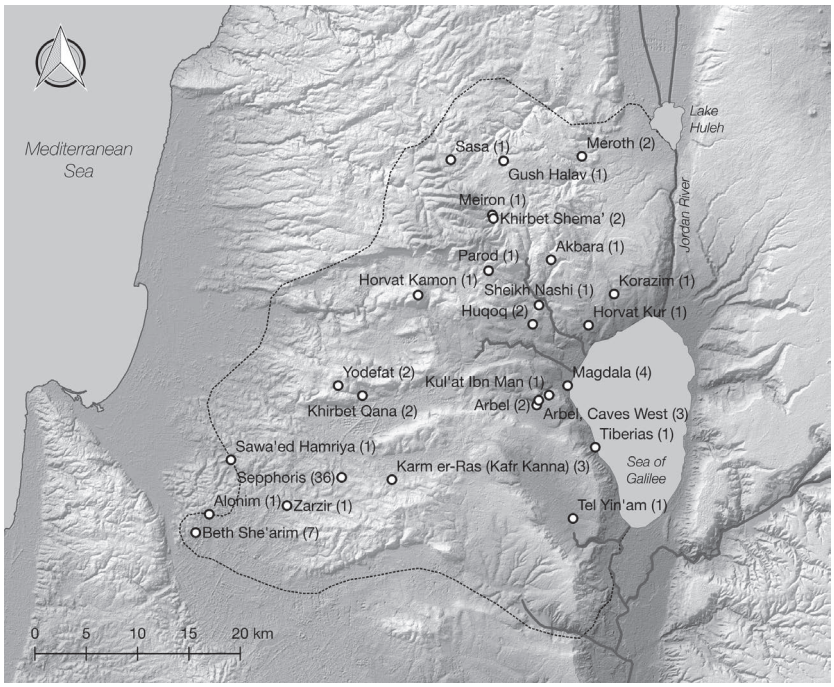

Figure 3. Map of Galilee. The number of stepped pools identified at a certain site are provided in brackets.

built near agricultural installations and burials.

Although the design and size of these pools varies, the typical type is a rectangular pool, sometimes roofed, that is hewn into the bedrock and coated with hydraulic plaster, with a flight of steps spanning its full width (Fig. 5). In various cases, the pool is connected to another water installation, either a cistern or a rectangular reservoir that was used as storage or settling tank.[3] Supposedly, and with some exceptions, these pools were fed directly by rainwater that was collected and channeled from a building's roof. But none of the stepped pools appear to have had an outlet for emptying the used water. This makes changing the water and cleaning the pool a more challenging task that probably was not carried out often. It should be stressed, however, that little effort has been made so far to elucidate the exact workings of stepped pools in detail.

Most scholars agree that the majority, if not all, Jews viewed and used these stepped pools (occasionally) as ritual purification baths in a manner as described in contemporary textual

[3] These rectangular reservoirs have been in the past identified as an 'osar, a particular device filled with rainwater that through contact could make drawn water in a miqveh ritually suitable. Adler (2014) has shown, however, that the 'osar was a later innovation of the nineteenth century.

Figure 4. Remains of houses in the Western Quarter, Sepphoris. Over twenty stepped pools were found during excavations in this area.

Figure 5. Stepped pool SP2 at Sepphoris.

sources (e.g. Josephus *A.J.* 3,261–265, 269). This means that they were used for full ritual immersion to purify oneself from the state of impurity that was caused, for instance, by contact with sexual fluids or diseases. The first written attestation of a specific built installation for this purpose is found, however, only in the rabbinic Mishnah (ca. AD 200–225), when most pools seem to have been no longer in use as such. Still, these later textual prescriptions about *miqva'ot* – e.g. must contain a min. vol. of 40 *se'ah* of water (ca. 500–1000 liters) and filled directly with 'living' water (e.g. spring water, groundwater or rainwater) – have often been used as fixed real-life criteria for the earlier pools. That is, in combination with such observable material features as the presence of steps and hydraulic plaster. Moreover so, their identification often also rests on excluding the unlikely alternatives, such as them being cisterns, regular baths, or wine-presses.

In the meanwhile, the widespread attestation of stepped pools in Galilee, as elsewhere, has become essential for the argument that purity laws were generally observed in everyday Jewish life. In doing so, these pools press a notion of observance and uniformity among ordinary Jews 'at street level', and highlight Jews' shared ritual behavior in reconstructions of its society (e.g. Sanders 1992; Regev 2000, 181, 184–85).

Problematizing the Study of Stepped Pools

In the study of the stepped pools, it has been often considered a pre-given that their users understood and used stepped pools in a similar manner as described in later rabbinic texts. In this top-down approach, after the pools' initial identification as *miqva'ot*, attention was being redirected to what texts tell about how the respective communities used these features. This has been changing during the last decade, especially through more critical readings of related texts on purity practices in the

Dead Sea scrolls and rabbinic literature (e.g. Adler 2014; Miller 2015). For instance, as Miller (2015, 32–103) has shown, the diverse use of the term *miqveh* in rabbinic sources suggests that for the rabbis this was not a well-defined and uniform institution. Instead, practices other than ritual immersion may have been also common.

If we apply this to archaeology, we have to recognize that, as for any particular context where stepped pools are attested, we neither know how these pools were used nor what their significance was to their users. While these pools theoretically could have been used in purity practices, it cannot simply be deduced from the exposed pools alone. Moreover, their identification should not be a mere end unto itself for archaeology, but a beginning from which to investigate what this function actually meant for their users. In the question how Jews understood "purity observance" their bodily and sensory relationship with these built pools is of primary significance.

How then to study the stepped pools? I propose the need for a bottom-up, practice-oriented approach that examines how their particular qualities and contexts bounded and shaped the users' practices and experiences (Fogelin 2007, 61–62; see also Boivin 2009; Raja and Rüpke 2015). Their actual usage and significance is not inherent in the pools themselves, but "is created through [their] use or performance in specific contexts" (Fogelin 2007, 61). In particular, I would like to focus on one primary aspect to impact people's day-to-day experiences, practices, and interactions with these pools – its water.

The Quality of Stagnant Water

How pungent and dirty was the water in these pools? Implicit comparisons with the bright, sterile miqva'ot that modern Jews use are easily drawn. Yet, the increased concern for hygiene and sanitization (and the "necessity" of clean and accessible water) is a modern one that only developed in nineteenth-century Europe (Schlich 1995, 437). In Early Roman Galilee, the open pools of stagnant water (with no outlets detected), located in the more confined spaces of a house, may have cultivated a rather different, perhaps even unpleasant experience to their users.

It is well known that, aside from its poor aesthetic qualities, stagnant water may cause potential health risks. For instance, toxic chemicals such as nitrate that build up in such water are linked to infant methemoglobinemia, or 'blue baby syndrome'. It is also an attractive breeding ground for bacteria, intestinal parasites, mosquitoes and other disease-carrying insects (Lucero 1999, 41). Especially harmful is the mosquito species *An. Bifurcatus*, which in the past bred in cisterns and pools in our region all year round. In the early twentieth century, this species was responsible for nearly all urban malaria cases in Palestine and was by the then Department of Health considered to be the most dangerous malaria-

Figure 6. '*Miqweh* 3' at Magdala. Note the absence of any plaster along its walls and the water that is still standing on the bottom.

causing species of the region (Kligler 1930, 41; Naval Intelligence Division 1943, 225–226). Yet, as Pliny the Elder describes (*Nat. Hist.* 31,21), filthy stagnant water was a common threat in the Early Roman Empire as well: "cistern water even physicians admit is harmful to the bowels and throat because of its hardness, and no other water contains more slime or disgusting insects."

One can imagine that regular immersion in one of these pools was rather unpleasant and to some extent even risky in terms of health. We should not imagine, however, all Galilean stepped pools to have been equally filthy and pungent. Different people probably had different methods and devices to occasionally clean the water, but its effectiveness can only be speculated. Moreover, if and how the pools' hygienic discomfort affected people's engagement with them remains unknown and requires further study.

Seasonal Changes in Water Level

In an average year, let alone during occasional dry years, the seasonal rainfall and drought pattern in the semi-arid region of Galilee must have caused changes in the pools' water level. To what extent remains unknown, but the example from the Hasmonean and Early Roman town of Magdala, located on the northwestern shore of the Sea of Galilee (Fig. 3), indicates that this could be quite severe. Different from typical stepped pools, the three exposed pools in this town were not plastered as they were fed by groundwater (Fig. 6) (see Reich and Zapata Meza 2014). The surrounding groundwater level thus determined the height of the pools' water. This meant that, during the dry summer months, the pools' water level would roughly equal the lake level of the nearby Sea of Galilee. The lowest level of the three pools in Magdala (ca. 208,47 m below sea level) is, however, considerably higher than the Sea of Galilee's lowest lake level, which based on evidence from the harbor at Magdala fluctuated during this period between 208 and 209,5 m. below sea level (De Luca and Lena 2014, 144). The water in these pools thus probably completely receded in summertime (Fig. 7), only to gradually fill up again during the following winter season.

The occasional complete withdrawal of water probably seriously impacted people's everyday experience and usage of these pools. How could one ritually purify oneself during these occasions if immersion in one of the-

se pools was impossible? To be sure, during such periods residents of these houses could go to the nearby Sea of Galilee, which qualifies for ritual immersion. But such behavior begs the question why some of Magdala's residents actually ever decided to build a stepped pool in the first place, knowing that it would occasionally stand dry. And how do we need to understand all this in light of the importance people attached to this purity immersion ritual? Were there perhaps other means found to circumvent the issue? The pools' excavators have not provided so far any answers, nor are they put forward for other Galilean sites, although it could happen there as well.

A Changing Climate

Why were the majority of stepped pools in Galilee built and in use during a period of roughly 200 years, from ca. 100 BC to AD 100? Most often, their appearance in Galilee is linked to the Hasmonean conquest and the subsequent settlement in the region in the early first century BC. During the late first and early second century AD, many if not most stepped pools went out of use: either used as a dump, given a new function as storage facility, or access was blocked by later structures. The cause for why this happened remains a matter of current debate, but at least to some degree seems to be related to a changing or dwindling purity observance among Galilee's Jewish population (Bonnie 2014, 520–521; Adler forthcoming).

Cultural diffusion and social change may, however, have been only part of the explanation for the pools' gradual introduction and eventual disuse. One aspect in particular has been often overlooked in this regard — the region's climate. Climatic conditions determine the availability of (and shape people's concern with)

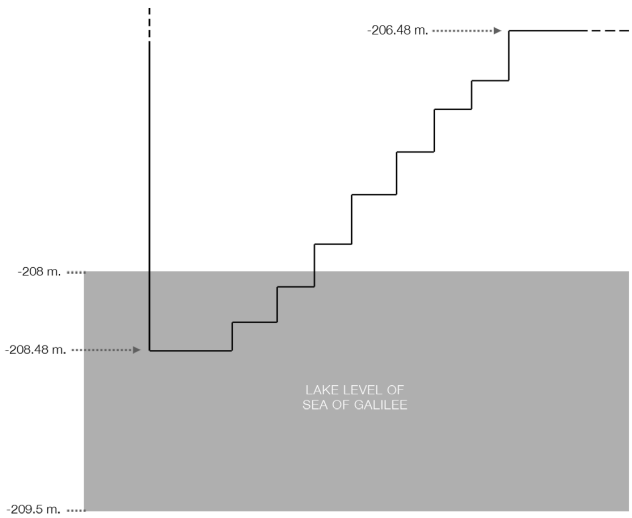

Figure 7. Schematic model of the groundwater level in '*Miqweh* 1' at Magdala during summer. The lake level of the Sea of Galilee fluctuated between 208–209,5 m. below sea level.

water for drinking, cleaning and hygiene purposes, as well as to fill the stepped pools.

Interestingly, paleoclimatic data gathered throughout Israel indicate that the century around the turn of the Christian era was the most wet and rainy period recorded in recent millennia, after which annual rainfall levels gradually dropped again (Dubowski *et al*. 2003; Bookman *et al*. 2004; Orland *et al*. 2009). Dubowski *et al.* (2003, 70) even stated that during this wet and rainy period "the Sea of Galilee was probably at its highest level ever." This observation is supported by the aforementioned evidence of subsequent harbor structures at Magdala from the Hasmonean to Byzantine period. As the Sea of Galilee gradually regressed during this period, Magdala's harbor constantly shifted further east (De Luca and Lena 2014).

When looking at the time of increase and decrease in the construction and usage of stepped pools in Galilee, this appears to roughly coincide with the period when the climate was most rainy and wet. Did the beneficial regional climatic conditions perhaps play a role in people's adoption and fostering of this particular water installation and associated practices? And may the later worsening conditions, causing water to become scarcer, have prompted Galilean residents to stop using these immersion pools? Although a causal connection between the events requires further study, their correlation at least looks remarkable.

Conclusions

This article attempted to describe and to some extent problematize the research on stepped pools in Hasmonean and Early Roman Galilee. In particular, I have argued that identifying how these pools were used should not be an end unto itself, but a beginning for studying what this actually meant for their users. In this bottom-up approach, in which water plays a crucial role, emphasis lies on examining how these water installations were devised and worked, as well as how they shaped the bodily and sensory experiences of their users. This enables us to produce new knowledge against which to interpret related textual evidence.

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